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EXTENSION SERVICE  
*Review*

APRIL 1958







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Cooperative Extension Service:  
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and Universities cooperating.

**T**he *Extension Service Review* is for Extension educators—in County, State and Federal Extension agencies—who work directly or indirectly to help people learn how to use the newest findings in agriculture and home economics research to bring about a more abundant life for themselves and their community.

The Review offers the Extension worker, in his role of educational leader, professional guideposts, new routes, and tools for speedier, more successful endeavor. Through this exchange of methods, tried and found successful by Extension agents, the Review serves as a source of ideas and useful information on how to reach people and thus help them utilize more fully their own resources, to farm more efficiently, and to make the home and community a better place to live.

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Division Director: *Lester A. Schlup*

Editor: *Edward H. Roche*

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### EAR TO THE GROUND

The question is frequently raised, "Why do production research when we have agricultural surpluses?" We thought you'd be interested in what ARS Administrator Byron Shaw had to say on this subject in a recent address before the Agricultural College Forum at Pennsylvania State University. You'll find the highlights of his talk on page 75.

Another topic receiving a lot of discussion lately is brainstorming. Its proponents say that groups using this approach come up with a lot of possible solutions to problems in a short time. Critics of brainstorming, on the other hand, say that most of the solutions obtained in this manner are impractical. No matter which side of this question you're on, you'll want to read the article on page 76. It gives the rules for this free-wheeling method of generating ideas, lists some advantages, and points out its limitations.

You'll also want to read how Balanced Farming is helping Missouri farm families attain a more profitable and satisfying living (see page 80). Nearly 12,000 families have formal Balanced Farming plans in action and another 18,000 have previously participated in the program. And these figures don't include the

many thousands who have taken part informally.

I've heard a lot about farm and home development since joining Extension last summer but haven't had an opportunity to put my ear to the ground in a county where agents are using this approach. As I write this, though, I'm looking forward to a trip to Missouri where I plan to visit some of the families taking part in the Balanced Farming program. I'll fill you in on my trip in the May issue.

*Next Month:* What do various family members want and need from 4-H? That's the theme of a special issue in May. We'll have articles from leaders, mothers, and prominent 4-H alumni telling some of the values they've observed in Club work.

The lead article will represent something new for the Review, too. We tape-recorded a discussion by FSS Assistant Administrator Gerry Huffman, 4-H Division Director Ed Aiton, and State Agent Bill Skelton of Virginia. They took "A Look Ahead in 4-H" and talked about some of the many changes taking place which are requiring a constant adjustment in programming to provide "real-life situations."—EHR

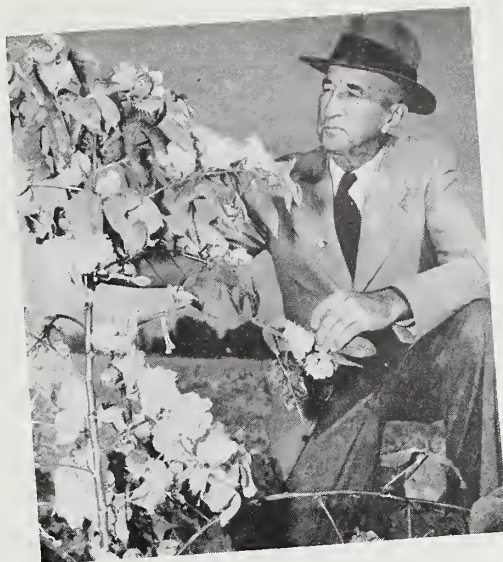
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# don't sell Production Research Short

by **BYRON T. SHAW,**  
Administrator,  
Agricultural Research  
Service, USDA



A new high-yielding cotton, Pima S-1, is the first domestic long-staple variety to compete successfully with imported Egyptian cotton. W. E. Bryan, Arizona Experiment Station, is shown examining one of long-staple types he originated. USDA cooperated in seed increase, fiber testing, and market development.

**W**E are living in an age of research. And, if anyone had any doubt of this before last October, he must certainly be aware of it by now. You can't pick up a newspaper without reading about satellites and space travel.

Further, the tasks of research today have never been so urgent, and the stakes have never been so high. In some aspects of this race for knowledge, we are in a contest where the winner takes all.

Agriculture has a big part to play in this contest.

The main reason that our agriculture leads the world today is because, for the past 50 years, our agricultural research has led the world.

## *Must Anticipate Changes*

Yet the fact remains, there are some weak spots in agricultural research . . . and today's surpluses point them up. They show that it is not enough for research to give farmers the means of efficient production. There must be other research that anticipates changes in farming growing out of these improvements, and that helps farmers adjust to them.

Take the case of hybrid sorghum—one of the important recent achievements of agricultural research. In anticipating the gains in yields from these hybrid sorghums, we were wrong not to be doing companion research that would help farmers make the best use of this improved crop. We should have had more utilization research directed toward the development of new uses for sorghum.

We should also have had more research in economics on the effects of hybrid sorghum. Farmers needed to know how the general adoption of these hybrids would affect their incomes—how to adjust their farm plans to best meet these new conditions.

In broad terms, research is not going ahead fast enough to help farmers meet the economic problems that are continually growing out of changes in farming technology. There must be more production research, especially in farm economics, if farmers are to make the most of these changes in technology.

Our nation's continued world leadership in agriculture depends upon production research. And it would be dangerous to underestimate how

much is enough. Who can say how many plant breeders we need to maintain the status quo on stem rust disease of wheat? Or how many scientists we need to hold the line on the spotted alfalfa aphid and the soybean cyst nematode? Production research that fights these pests does not increase total production. At best, it only helps farmers to hold their own against the hazards that can wreck farm production. We must do a great deal of this kind of protective research.

## *Aids Marketing Efficiency*

Furthermore, in those instances when research does lead to greater production efficiency in soils, crops, and livestock, it contributes importantly to the improved marketing and utilization of farm commodities.

Today, because of research, livestock products—meat, milk, eggs, cheese, and ice cream—are marketed at greater advantage than ever before. There's a wider variety of these foods in the stores. They're more attractively packaged and displayed . . . they're fresher . . . and higher quality. They're more convenient to buy, carry, and use. And we consumers are more aware of the nu-

*(Continued on page 78)*



New varieties of corn better able to withstand attacks of European corn borer are being bred by USDA and Corn Belt scientists. Two experimental resistant strains (outside rows) that have withstood borer attack are compared with susceptible variety in center.





## Generating IDEAS to Solve Problems

by W. G. BRAKEY,  
Manager, Technical Recruiting,  
Monsanto Chemical Co.,  
Springfield, Mass.

**C**REATIVE imagination is the talent that has enabled man to transcend other animals. An anthropologist may quarrel with this and state that man owes his progress to his ability to oppose the thumb and forefinger and thereby hold tools. The desire to hold the tools, however, must first originate in the imagination.

Electronic brains have been unable to produce any ideas. If the apple which fell on Sir Isaac Newton had fallen on the Univac, it might have broken a tube or blown a fuse. Cer-

tainly Univac never would have come up with the law of gravity.

Constructive ideation, the act of generating ideas, holds the key to the solution of problems in business and personal life, as well as in science and the arts. We have to discuss creativity because our educational system has neglected it. Our education and experience have done almost nothing to develop our creative power, unless we are products of an art school.

As children, we are all endowed with an unbridled imagination. Kindergarten really is an experience. The youngster sticks his little fists into a moist block of clay, making a hand print. This dries, he paints it bright red, and the teacher scratches his initials below it. He brings it home and his parents are both enthused over his being so creative and, naturally, feel they have a budding sculptor on their hands.

Kindergarten is over and in Grade 1, he learns that 1 and 1 equal 2—2 and 2 are 4. This is the way it goes through the rest of his training. The further he goes, the more highly specialized he becomes. The more highly specialized he becomes the more he knows of the laws of physical science, the less inclined he is to depart from the path on a creative tangent.

The ideal solution would be to have all subjects taught creatively, and some progress has been made along these lines. We can help fill the gap by a brief orientation to the creative approach or brainstorming.

### Brainstorming Technique

Creative thinking isn't new, but brainstorming is a conscious effort to use creative techniques in arriving at solutions to new problems. For teaching materials, in 1953 Scribners published "Applied Imagination" by Alex Osborn, based on a 5-year pilot course at the University of Buffalo. A second edition is based on broad experience in industry and education.

The objective of brainstorming is not to produce Einsteins, but to provide ordinary people with hints and devices for allowing their imaginations full play. It gives participants a consciousness of the power of imagination and a confidence in using it

by self-demonstration, thereby creating a new and creative approach to any problem.

Individual ideation is productive. It requires that you ask yourself questions, that pencils can be magic wands, that you set deadlines, and pressure yourself by setting quotas of ideas. Group ideation is more productive because the flow of ideas is increased almost tenfold by the ability to spark each other's ideas.

Here are the ground rules in this brainstorming game:

*Judicial judgment is ruled out.* Conferences are usually dominated by critical thinking. This is a new kind of conference where you defer evaluation until enough alternatives are derived. We feel we are better off with 53 ideas to select from than 4 solid ideas.

*Free wheeling is welcome.* The wilder and woolier the idea, the better to spark the imagination of each other and to loosen the minds, for ideas can be tamed down much easier than they can be thought up.

*Quantity is wanted.* Quality is inherent in the volume of ideas.

*Combination and improvement are sought.* We want ideas expanded, developed, combined, refined, and improved.

### How It Works

To participate in this game, we have three rules:

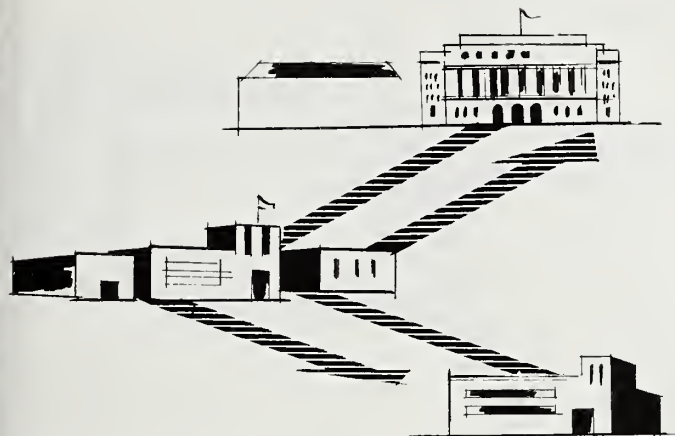
1. *Idea*—raise your hand.
2. *Hitch-hike*—to adapt, expand, or modify someone else's idea, snap your fingers so the group leader will get the hitch-hike before the association is lost.
3. *Critical thinking*—out at the bell. The slightest suggestion of criticism by a sneer, a laugh, or a remark causes the bell to ring.

To conduct these sessions, the above background should be covered and then a few demonstrations performed to get the mental set of the group. For example, try a visualization. The prop could be a hat box and the group give their ideas of what it contains. It could contain two aspirin tablets.

For a demonstration of improvement, use a familiar object such as a hammer, pen, pencil, or paintbrush. Have the group generate ideas

(Continued on page 85)





## ***SPECIALISTS — The connecting links***

by JOHN J. McELROY, Program Leader,  
Special Projects, California

**T**HE Cooperative Extension Service is like a highway, running from the U. S. Department of Agriculture and State land-grant colleges and universities to the nation's farms and homes. The traffic consists of extension specialists carrying technological facts from the campus to the counties and returning with information and local reaction which help guide future research programs.

The specialist interprets and adapts research findings to local needs. At the same time, he acquires knowledge of local requirements for further study. The specialist serves as the connecting link between the land-grant college and the county extension worker. By this means, research activities and extension endeavor are tied together so that the full facilities of the college are used effectively.

The county agent's work covers a wide field. Even though a county may be concerned with the production of a single crop or related group of crops, problems of soils, irrigation, disease, pest and weed control, as well as problems of variety and cultural practices, must be faced. Consideration must also be given to aspects of farm management, economics and marketing. Thus the county worker must have a broad-gauged knowledge of a large body of subject matter.

But the county worker's horizon is often limited by county boundaries. He has special knowledge dealing with local people and conditions, but he is removed from the sources of information and his ideas may be conditioned by local thinking. He has little time to travel and observe

or to keep up with research findings. He cannot read as widely as his responsibilities require. Here is where the specialist comes into the picture. He helps the county worker by serving as a resource person, consultant, adviser, and friend.

### ***Specialist's Role***

Responsibilities of the specialist include analysis, interpretation, planning, training others for teaching, inspiring action, encouraging application, achieving objectives and measuring results. He helps county workers to carry on an effective teaching program; to grow in ability and judgment.

As a subject matter leader, the specialist assembles, selects, and interprets scientific findings, adapting them into usable material. This requires continuous study of field needs,

close relationship with research, and correlation of information from USDA, colleges and other agencies, and of particular importance, information from farmers themselves.

Training county staff members in subject matter and techniques is another important function of the specialist. By working with county personnel in analyzing the local situation and organizing the county program, the specialist selects subject matter suitable to local use. Training techniques include sectional conferences, background or refresher conferences, assistance with test plots or demonstrations which are helpful in carrying out the county program. In followup visits, the specialist brings supplemental information and helps evaluate the program as it progresses.

*(Continued on page 84)*



Range seeding project in California is examined by L. J. Berry, range improvement specialist; A. D. Haig, field technologist; and A. L. W. Mitchell, Butte County farm advisor.



## PRODUCTION RESEARCH

*(Continued from page 75)*

tritional values and better satisfied with what we buy.

But the fact remains that many people would eat more of these good foods if they could get them at lower cost. And with our population booming, this potential market for livestock products will stay strong in the years ahead. Here then is a market for farmers to aim for. But how well they succeed in reaching it depends to a great extent upon continued emphasis upon production research.

Science must find ways of producing all these foods more efficiently. And it must find the means to make it attractive for grain farmers and cotton farmers—all of those who today have no choice but to produce already too-abundant commodities—to switch some of their acres to commodities with a growing market. Development of suggestions for profitable changes in farming that are geared to market opportunities, area by area, and for the nation as a whole, is a job for production re-

search—a job of economic analysis built upon dependable research in soils, crops, livestock, and engineering.

Our aim in all research is to broaden the market for agricultural products. Production research is just as important in this as any other kind. There is a bright future for such new crops as castor beans and safflower. There are perhaps even greater opportunities for finding new industrial uses for the major crops that make up our cereal grains . . . in plastics, industrial finishes, pesticides, and the paper and rubber industries, for example. These market opportunities will be developed for farmers just as fast as research can push ahead in marketing and utilization.

But in the final analysis, the success of farmers to capture and hold these markets will depend upon their abilities to meet market demands in terms of quality . . . quantity . . . and price. And this is a job for production research.

Twenty years from now we will not think that we were doing too much production research in 1957. In looking back over our past, we will be amazed that we were satisfied

with a production research effort whose emphasis was so heavily geared to holding the line.

It is clearly evident that production research has been important in the past. It is important now. It will be important in the future. Don't sell it short.

## When It's Your Turn at the Meat Counter

The filmstrip on Federal grades developed by the Livestock Division of Agricultural Marketing Service, U. S. Department of Agriculture, has been revised and is now ready for distribution. Developed to assist in teaching the market selection of meats, the 25-minute filmstrip is designed especially for use with consumer-buyer groups.

Because this is a commercial reproduction, slight color variations may be inherent in the process. Copies can be ordered at \$4 each from Photo Lab, Inc., 3825 Georgia Avenue, N.W., Washington 11, D. C. Your order should specify the name of the filmstrip, "When It's Your Turn at the Meat Counter," and USDA Catalog No. C-16. Each filmstrip will be accompanied by a copy of the lecture notes.

## The Wonder of Water

A new 16-page comic book which provides information on soil and water conservation problems has been published by the Soil Conservation Society of America. Bulk supplies of "The Wonder of Water" are being sold by SCSA, 838 Fifth Ave., Des Moines 14, Iowa.

The effect of drought on a typical city, Midvale, U. S. A., is illustrated. It tells how the community faced the problems caused by the drought, developed an educational program for all its citizens, and then secured an ample water supply to meet long-range needs.

The booklet is similar in treatment and format to "The Story of Land," published in 1955 by the Society. More than a million copies of the latter have been distributed and 100,000 copies of a Spanish version were printed recently for use in Puerto Rico.



Textile manufacturers want and will pay more for wool fleeces of uniform fineness and length and free from off-color fibers and weaknesses. USDA scientists, in cooperation with Idaho Experiment Station, are developing sheep that will produce wool with these desired characteristics, along with high yields of fleece and meat.



# THREE-WAY APPROACH PAYS OFF



by KATE ADELE HILL,  
*Studies and Training Leader, Texas*

A THREE-WAY approach in mass media is an effective way to reach homemakers, believes Viola McKenzie, Galveston County, Texas, home demonstration agent. A regular newspaper column, a weekly radio program by the agent plus a weekly radio program by the home demonstration club women, and a weekly television program by the agent and club women make up this concentrated drive.

Changes observed in the county's population caused Miss McKenzie to adopt this three-media plan. The county was becoming more urban and less agricultural; more than three-fourths of farm families owned television sets. So a single medium would not adequately reach the potential audience.

After this coordinated effort had been in effect for about a year, Maurine Hearn, State home demonstration leader, suggested that a study be made to evaluate its effectiveness. District Agent Leta Bennett, Miss McKenzie, and I presented the plan for such a study to the county home demonstration council and they agreed enthusiastically to help.

A total of 80 women made 2 to 5 interviews each. Every fifth house on alternate streets was visited.

The 1,052 interviewees were classified as: home demonstration club members, 259; nonclub members, 695; and ex-club members, 98. Two main purposes of the study were to discover how many women in each classification had used the information given on these programs and in the news column and to determine

subjects on which they desired further information.

Yard improvement rated first with nonclub members and ex-club members and tied with food information (including meal planning and recipes) in club members' interests. Food information was the subject of most interest to club members and was second among nonclub members.

The television program is viewed regularly by 140 club members, 233 nonclub members, and 26 ex-club members. More than half of the club members who read the agent's weekly news column, 191 out of 259, used information given in the column. A little less than half of the nonclub members, 308 out of 695, had used information from the column.

As to the radio programs, 92 club members, 110 nonclub members, and 23 ex-club members reported that

they received helpful information from the agent's program and about the same number heard the program put on by the women.

Significant in this study was the fact that the club women interviewed their neighbors and fellow club members, and they had fun doing it. Comments by the women helpers ran like this:

"We found every person was willing to answer the questions and we enjoyed the experience . . . We found that many women listen to the radio program who previously were not familiar with the Extension Service . . . We were pleased to see how many younger women listened to or viewed the early programs."

If you want to do a thorough job of evaluating a program in a county, just ask the women to help you. They will get the job done.



Plans for mass media study are discussed with Galveston County Home Demonstration Council by Dr. Hill, right, and Agent Viola McKenzie, standing.





# Meets the Needs of

by A. EDWARDS, Associate Agricultural Editor, Missouri

**B**ALANCED Farming in Missouri came as a logical outgrowth of Extension work. By 1936, when the first work was started with this total farm and home approach, there was a need for a program to more fully meet the needs of farm people.

Top livestock men had lost farms because their cropping systems hadn't kept pace with their prime enterprise. In some cases the best crops operators raised big crops and then sold them through unthrifty hogs and cattle.

In short, Extension in its early approach made little attempt to tie the farm operation together as a unit. Specialists worked on individual practices without relating them to other phases.

Objective in Balanced Farming has been a system of balances—between input and outgo of soil fertility—between pasture and crops and the livestock system—between the farming system and desires of the farm family, coupled with their labor supply—between net income and the needs of the family—and between good planning, hard work and a comfortable, attractive home.

Much of the success of the program has been because specialists understand the overall picture of Balanced Farming. For example, dairy specialists recognize that the dairy farmer can't succeed unless he builds soil to grow the feed necessary for low-cost milk production. Crops and soils men, on the other hand, know that build-ups in their field won't suffice without the right kind of livestock management.

This idea of a balanced operation must be implanted in the family planning session. The farm homemaker has to help with every step in the farm plan. And her husband

must help with every step in the home plan. This calls for real teamwork if it is going to succeed.

Extension has worked toward getting the family started where their interests lie, perhaps in an improved cropping system and bigger use of fertilizer based on soil tests, maybe in a dairy cow test association, or in a feeding program, or with home improvement if finances will permit. But the important thing is to get the family started toward a program for a net income which will meet the needs of the family and pay the improvement bill.

## How It Works

To see how Balanced Farming works, let's look at a cross-section of Missouri farmers who are using the program.

Since joining a Balanced Farming association in 1950, the Ralph Vin-

yards, Webster County, have accomplished many of their goals and are setting new ones.

The Vinyards operate a rather rough hill farm of 180 acres. Only 75 acres is cropping land and about 40 open pasture. A dairy herd and some hogs are the cash enterprises. The cropping system is geared to provide all the feed possible for the livestock.

Their progress with this rather conservative unit shows what the smaller operator can accomplish. In 1955, the Vinyards herd produced only 7680 pounds of milk and 369 pounds of fat per cow on 28 cows. In 1956, they increased this another 1650 pounds of milk and 82 pounds of fat. Vinyard says they made the jump by culling low producers and buying some new breeding stock, plus a better feeding program.

They have used income from the farm without going into debt to make



Results of good Balanced Farming program are evident on Clarence Spaethe farm, Lincoln County, Mo. Improved features include terraces, lanes to fields, ponds, well-arranged farmstead with open court and good buildings



# Farm People



Group system enables agents to work with more families but must be supplemented with individual discussion. Home Agent Mary Lou Brown and Associate Agent Hubert Headrick are shown working with Osage County group.

a number of farm and home improvements. Chief among these were: utility room and bath, \$1400; bulk tank, \$2300; new tractor and equipment, \$2175; water management, \$100; breeding stock, \$1286; converting milking parlor to pit-type unit, \$800.

Vinyard says Balanced Farming has paid him big dividends. He estimates that it has returned \$20 for every \$1 he has put into the program. As an example, Vinyard reports one instance when he spent \$12 for diel-rin to spray 10 acres of barley. Saving the crop gave him 65 days' pasture for 40 head of dairy stock.

A livestock and cash crop farmer, Earl Weeks of Stoddard County, says a good Balanced Farming operation can mean the difference between profit and loss. He says planning ahead and a good fertilizer program have been key items on his farm.

Basis for Weeks' thinking is the big boost in his farm yields. In the mid-40's wheat averaged only 20 bushels per acre. Last season his

Vigo made 50 bushels and Knox 60 bushels per acre. Weeks cribbed 6200 bushels of corn from 60 acres and then fattened out 42 head of hogs he purchased just to clean up picker losses. His soybeans beat the 40-bushel mark and alfalfa ranged from 5½ to 6 tons per acre.

W. W. Lowe of Livingston County, a successful livestock farmer, says he joined the Balanced Farming association primarily to get help on soil conservation. Since starting a plan in 1946, he has terraced all sloping crop land on the farm. He says it takes longer to farm terraced land but the benefits in fertilizer savings alone are well worth the difference.

By boosting yields on his farm, Lowe is getting production to carry his livestock. His speciality is meat-type hogs, bred up from a four-way cross. He sold 396 market hogs from 45 litters last year for an 8.8 littler average.

Balanced Farming has proved beyond doubt that the small farmer



Planning session with Mr. and Mrs. Ralph Vinyard, Webster County, is held by Associate Agent Jim Summers.

still has a big stake in agriculture. The Ruth and Lawrence Helmering mother-son partnership of Crawford County shows an adequate income on only 120 acres of Ozark land. They handle a 1000-hen laying flock and retail their eggs to customers in St. Louis, Steelville, and Cuba.

Besides producing 12,000 dozen eggs last year which averaged 50 cents per dozen, the Helmerings raised and sold 200 turkeys at premium prices. Their sole livestock enterprise is a flock of 55 ewes. They have built a 10-acre lake for irrigating truck crops which include grapes and strawberries.

The experience of Albert Bos, Christian County, shows that the young farmer can get started in the farm business today with limited capital. He and his wife formed a 50-50 partnership with a retired farmer and in 5 years have paid for a half interest in 60 head of Guernsey cattle, a complete line of farm equipment and milkhouse equipment.

In 1956, their income over feed cost on 30 milking cows was \$330.56 per cow, a big climb from their first year in 1952 when the income over food cost was only \$155 on 21 cows. Next step for the Bos family is purchase of a farm.

Such partnerships have proved an important phase of the overall Balanced Farming program. Not only do they offer a chance for young operators to get established, but they open the door to capital for getting an economical unit in operation.

*(Continued on page 87)*





## teaching the WHY of soil conservation

by ANGEL TOMAS BERRIOS, Extension Soil Conservationist, Puerto Rico

**T**o teach the science of good land use is a tough job in Puerto Rico where the crucial problem is too many people on too little land.

Puerto Rico has 3,450 square miles of area. That's about two-thirds as large as Connecticut. Yet with its 650 persons per square mile, Puerto Rico is one of the most densely populated areas of the world.

With no mineral or fuel resources, the Island's economy depends largely on agriculture, even with strong industrial development recently. Unwise handling of land has damaged more than half the Island's land surface. Less than 50 percent of the total land area is tillable; so the one million acres that can be farmed will have to be stretched to accommodate the mounting population burden.

The resulting pressure for more land to cultivate has forced farmers to use steeper and steeper land that should be devoted to forests instead of cultivated crops. But it is difficult, if not impossible, to convince a farmer to plant trees when he has a big family to feed.

In spite of its size, Puerto Rico has 115 soil series with 352 different types and phases of soil. There are 7 distinct areas of rainfall, ranging from more than 200 inches in the northeastern mountains to less than 30 inches in the southwestern coastal plain.

The Island stretches east and west for 113 miles at its longest. Around

the coast is a narrow fertile plain which rises gradually toward the interior in a series of mountain ranges that occupy much of the Island. These mountains run mostly east to west and are broken by deep, narrow valleys.

The Extension Service, in close cooperation with Soil Conservation Districts, Soil Conservation Service, schools, and other organizations, is working hard to make the population conscious as to what constitutes

proper land management and good land use.

Even though many of the soils are heavy clays, the intense rainfall over much of the Island has each year caused great losses in organic matter, in fertility, and in soil itself.

The agricultural extension agents in Puerto Rico give special attention to soil and water conservation education. They direct their efforts toward

*(Continued on page 85)*



A group of 4-H boys of Cidra County participating in a land judging school.



# NEWS and VIEWS

## New Book Reveals What Teenagers Think

THE AMERICAN TEENAGER, by H. H. Remmers and D. H. Radler, Purdue University. Published by Bobbs-Merrill Co., Inc., Indianapolis and New York, 1957.

For more than 15 years, social scientists at Purdue University have been polling a national sample of teenagers to learn their attitudes and opinions on just about everything. Out of this continuing scientific study comes the most complete picture of American adolescents ever drawn.

This book is must reading for every extension worker, teacher and parent—indeed, every adult American.

Many of the puzzling aspects of adolescent behavior—including juvenile delinquency—can be better understood after the authors' thesis is assimilated. And the teenagers we all deal with come into perspective when they are compared with the typical teens revealed by the more than 40 individual polls covered in the book.

Based on these studies, the book reports on the problems of teenagers, sexual, social and physical; their relationships with their parents; the schools they attend; the future they face, including college, work, military service and marriage; their views on religion, ethics, science; their political attitudes; juvenile delinquency; and finally, suggestions for bettering the overall picture.

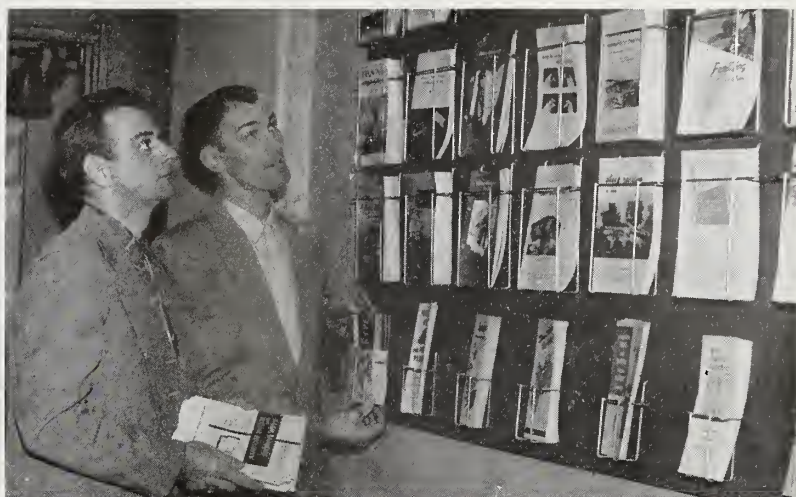
More than half the nation's teen-

agers believe that censorship is all right in some cases (who is to decide which cases?); that police should be entitled to use wiretapping; that third degree methods are acceptable; that the Fifth Amendment should be repealed—people ought to testify against themselves.

But the biggest shocker comes in these two figures: More than 50% of the nation's youth think most people aren't capable of deciding what's best for themselves and 75% think obedience and respect for authority are the most important habits for children to learn.

There is much more fact than opinion, more problem-stating than problem-solving. But for perceptive readers, there are plenty of cues for action—modern, progressive ideas based on the insights of psychology and sociology as well as on the poll results themselves.

There is, as you can see, much food for thought in "The American Teenager." It's a revealing, provocative, important book. It has the validity of objective research on a huge (10,000 to 18,000 on each poll) random sample of the nation's teenagers carefully reduced in size to a smaller stratified sample (2,000 to 3,000) which is truly representative of all America's adolescents. And it has the readability of a popular magazine article rather than the difficult style of a technical report—*Einar R. Ryden, Professor of Extension Education, Purdue University.*



Bulletins say "take me" on this pegboard display in the Muskingum County, Ohio, extension office. This rack is easily mounted on the wall and hangers can be arranged in any position.

## Human Relations Training Laboratories

Human relations principles for working with small problem-solving groups as well as large organizational and community groups will be among subjects discussed at summer laboratories in various sections of the country. Participating will be executives, religious leaders, and workers in education, government, and other professional fields. The laboratories also offer opportunity to exchange ideas with these leaders from varied backgrounds, all interested in group development.

Following is a partial list of laboratories and addresses to write for further information:

National Training Laboratory in Group Development, Bethel, Maine, June 15 to July 4 and July 13 to August 1; National Training Laboratory, 1201 16th St., N.W., Washington 6, D. C.

Human Relations Training Laboratory, Taos, N. M., August 10-23; Dr. R. R. Blake, University of Texas, Austin 12, Texas.

Pacific Northwest Laboratory in Group Development, August 8-17; Miss Katharine Wolfe, Admin. & Public Service Center, Seattle Public Schools, 815 4th Ave., N., Seattle 9, Wash.

Intermountain Laboratory, Salt Lake City; Dr. D. A. Orton, Annex



205, Univ. of Utah, Salt Lake City, Utah.

Rocky Mountain Workshop, Denver; Mrs. J. L. Reed Edgar, Adult Education Council, Public Library, Denver 3, Colo.

Workshop in Community Relations, Chicago; Dr. M. L. Haimowitz, Human Relations Center, Univ. of Chicago, 19 S. LaSalle St., Chicago 3, Ill.

California Laboratory; Dr. W. H. Schmidt, University Extension, Univ. of California, Los Angeles 24, Calif.

Columbia University Laboratory; Dr. K. F. Herrold, Teachers College, Columbia University, New York 27, N. Y.

## Farm Machinery

**MACHINES FOR POWER FARMING** by Archie A. Stone and Harold E. Gulvin. Published by John Wiley & Sons, Inc., 1957.

This 600-page book combines tractor and machinery information in one volume. Throughout, the close and essential relation of the machine and its power (the tractor) is emphasized.

The book is divided into eight



**Bagged by hit-and-run-moose!** Lew Hanks, Matanuska Valley, Alaska, extension agent, was shaken up considerably when a moose tried to leap over his passing car. Smashing the hood, top, and windshield, the moose recovered his composure and ambled off without exchanging details of insurance coverage.

parts. Part I covers the tractor under the heading, Power for Production. In the next six parts the authors provide general information on each major machine; instructions for operation and field adjustments; maintenance and upkeep.

Of particular interest is the last section — Tractor and Machinery Management. The authors point out such pertinent items as machine capacity, draft and power requirements, cost per hour of use, control of tractor and machinery costs, etc.

Because the book is based on principles, it will not readily be outdated. —Robert Gilden, *Federal Extension Service*.

## CONNECTING LINKS

*(Continued from page 77)*

The specialist examines, reviews, evaluates, suggests, and plans with county personnel. The county workers know local situations and attitudes—they are close to local problems and local thinking. The specialist brings new information and a broad objective outlook. Together, the specialist and county worker analyze and work out solutions.

### *Aid in Program Planning*

Many counties hold planning conferences. The specialist attending such conferences gives participating farm people direct background infor-

mation and, by taking part in their discussions, gives them a better understanding of the problems they seek to meet.

The county worker who uses these conferences for program development enjoys the advantage of a program well understood by the leaders. Such a program in action may require test plots or demonstrations; the specialist can contribute his particular abilities in plot layout and demonstrational techniques. His continued interest and occasional appearance lend the authority of USDA and the college to the teaching of the county worker.

Both the specialist and the county worker are field representatives of the Extension Service and of the college. The county staff member represents the Extension Service intimately and immediately before the public; effective extension performance depends upon his leadership. Here, the specialist's role is to understand, support, and strengthen the county representatives.

Through his relationships with other agencies and organizations, the specialist finds new funds of information and improves the application of these wider resources. He encourages better interrelationship of public and private research and teaching. Developing these relationships, the specialist broadens his own perspective and increases his usefulness to the county worker.

### *Liaison with Administration*

The specialist serves as a liaison between the county worker and the State administrative staff. As an adviser to the administrator, he furnishes technical knowledge for policy formation. The State administrative staff requires an understanding of local conditions and the support of the counties. It requires basic technical information which can be applied to the solution of problems if it is to effectively support and assist the county staff.

In a period of advanced technology and dynamic change, the specialist exerts a leadership and performs a catalytic service which enables the Extension Service to be in the forefront of progress in agricultural and rural life. Understanding, sympathy,



Time-saving system for selection of gilts for replacement has been introduced by Darl W. Fike, Henry County, Ill., agent. Gilts from large, thrifty litters are ear-notched. When ready for market, notched gilts are weighed and probed for backfat. Above, Sidney Cole, chairman of county livestock committee, checks weight and backfat. Fast gaining gilts are selected for breeding stock.



vision, confidence, courage, tolerance, unselfishness, persistence, enthusiasm, and a sense of humor are as much a part of the specialist's equipment as his technical proficiency and knowledge of science and research.

The specialist is an educator with specialized knowledge and skills. He trains those who train others. He assists others in understanding their own situations and in planning their action. His success is measured in terms of the success of others. He is the tie between the college and the field. He is in a strategic position to help make the Extension Service an integral part of the lives of the nation's food producers.

## TEACHING WHY

*(Continued from page 32)*

shaping attitudes and developing an understanding: (1) that resources are not limitless, (2) that there are practical methods for using land and water efficiently for sustained production without impairing, but even improving their productive capacity, and (3) that the welfare of the food producer and of the urban family are definitely linked together.

The extension worker in Puerto Rico has to face many problems in

doing his educational work. Perhaps the biggest problem is the low educational level of the people, especially in areas where many of the old farmers are illiterate. It is very hard for them to change "the up and down hill way of farming" for contour farming. The old ideas of their forefathers are rooted in their minds.

To adapt the teaching of soil and water conservation to this audience, it is necessary to rely heavily on meetings, discussions, farm tours, demonstrations, exhibits, and visual aids. The farm tour has proved to be one of the best methods in teaching soil and water conservation. The farm leader visited is in charge of convincing the visitors what soil and water conservation has done for him and his farm. Generally a farmer believes the testimony of a farm leader more than testimony of a professional leader.

Education is a slow process but we're making progress in Puerto Rico as to the best use and treatment of land. County agents are emphasizing soil and water conservation with youth in 4-H Clubs and in other organizations. Youths will be citizens of tomorrow that will make effective use of the natural resources or co-

operate, help and stimulate other citizens to use effectively natural resources such as land and water.

Land judging schools and contests were introduced as an educational method in Puerto Rico in 1957. With this method, the principal factors which determine the intensity of land use are identified. Once a man knows and understands these factors, he can decide how best to use his soil. Since he understands the "why," he feels it reasonable to continue to apply the principles.

The land judging conducted so far in Puerto Rico has proved that the method is a truly great aid to teach the art and science of good land use.

Land judging activities will be increased in Puerto Rico in 1958. This method will surely help to make soil and water conservation education an easier job in Puerto Rico. To all soil conservation educators we heartily recommend land judging as an effective teaching aid.

## GENERATING IDEAS

*(Continued from page 76)*

for the improvement of this well-known object.

Develop a spacial concept with a question like—if there were 6 months of sunlight and 6 months of darkness, what changes would be necessary in our form of living? Having freed the group's imagination with these warmup sessions, you go to a specific problem.

Concentrated brainstorming sessions should not last longer than 20 minutes, for they are fatiguing. One idea can be explored usually in about 4 minutes. A lull generally occurs after the first 90 seconds of exploration and after this lull, the second surge usually gives the best ideas. A good pace would be 60 to 70 ideas in 3 minutes.

For record-keeping, a stenographer may be brought in to record the free-flowing ideas. However, the conference leader or another person can write ideas on a flip pad or chart or blackboard so the participants can see the ideas and be stimulated to hitchhike with new ideas. Two people recording are better than one. They can alternate writing the ideas and do a more complete and legible job.

Hang the completed sheets of pad



Main irrigation channel of the Lajas Valley Irrigation Project under construction by the Commonwealth Government.



paper on a wire strung across the front of the room where all can see the ideas. A tape or wire recorder may be used but this sometimes inhibits the group.

A committee of at least 3 people should be selected to screen all the ideas and recommend the 5, 10, or 20 which seem to merit further study.

### *Not a Panacea*

Brainstorming is considered by its practitioners as quite successful in problem-solving situations. However, it should not be considered a panacea for all problems. Like everything else, it has its limits. One is the requirement that this technique be used to solve only specific, not general, problems.

Twelve people form an optimum brainstorming group. The brainstorming rules, and the atmosphere they create, tend to overcome the various blocks to creative thinking. Lack of knowledge is minimized when 12 people pool their backgrounds.

Lack of confidence, timidity, conformity, and an "it can't be done" attitude are lost in a completely permissive atmosphere. Pessimism and self-satisfaction are squelched by the spirit of the session. Psychological blocks, caused by habit or past experience, are broken down by the strange associations that take place during free-wheeling.

### *Brainstorming in Action*

A recent example came about during a brainstorming session. Six men had been assigned as a task force to come up with solutions for a particular industrial problem 3 months before the session. The brainstorming group, which did not include any of the six men, assaulted the same problem.

In 22 minutes, all of the potential solutions that the 6 men had conceived in the 3-month period, plus 27 other ideas, were generated by the group. If we had brainstormed the problem first and eliminated all but the best ideas, we could have saved a considerable proportion of the 3-month period, if nothing else.

We recommend that you give this technique a try. It will help you do a more effective job.

## Home Economists Chart Communications Course

by JESSIE E. HEATHMAN,  
*Assistant Editor, Illinois \**

**H**OME economists have started the communications ball rolling. A program is underway to contact every member in the United States regardless of her area of work.

Members of the National Advisory Committee in Home Economics Communications met with the NPAC executive staff at Gull Lake, Mich., last fall to study communications problems and to draft an action program. The four associations represented on



the committee were: American Home Economics Association, American Vocational Association, American Dietetic Association, and American Association of Land-Grant Colleges and State Universities.

After several days' study and discussion of problems which involve home economists in every area of work, one took on major importance—the need for more effective communication within the membership. As one committee member said, "Before we can tell our story to the world effectively, we must be able to communicate with each other. There must be understanding within our membership."

One of the first decisions was to continue to give priority to the original objective of the program. That is: "To create an awareness on the part of all home economists, present

\* Miss Heathman is a member of the NPAC Land-Grant College Home Economics Committee and the National Advisory Committee in Home Economics Communications.

and future, of the importance of communications."

Representatives of each association drafted a program to be presented to their membership. Recommendations of the American Association of Land-Grant Colleges and State Universities were:

1. Obtain a speaker on a subject relating to communications for the home economics division program at the 1958 Land-Grant College Association meetings. One suggested topic was: What makes people accept ideas?

2. Ask members of the association to explore on their own campuses the possibilities for graduate programs, fellowships, or assistantships in home economics communications, and to encourage communications research projects whenever possible.

3. Suggest that the Triennial Administrator's Workshop in 1960 be centered around communication.

4. Take bibliographies on communications to campus librarians for checking so that materials will be available for interested workers as needed.

### *Extension's Part*

Probably no other group within the membership is more aware of the importance of communications than extension folks. What can we do to further this program?

These three steps should start us on our way:

1. Study the program as outlined by the committee and understand the recommendations made by all four associations. State leaders can secure single copies of the program for duplicating from Miss Mary Holtmann, NPAC Home Economics Director, Wells Hall, Michigan State University, East Lansing, Mich.

2. Take stock of our own ability to communicate, whether person-to-person or through mass media. We can all improve our communications skills and techniques.

3. Study the communications process and know how it operates. Follow developments in the field of communications and reserve some time for attending training classes and workshops.





*Editor's Note: We recently asked readers to send in comments on Review articles or any subject related to extension work. Our objective is a continuing forum for the exchange of ideas.*

*The following letter proposes some changes in the present system of reporting extension accomplishments. Possible improvements in the reporting system are now being explored so Mr. Hall's suggestions are certainly timely.*

*What do you think of the present system and Mr. Hall's proposals? Let us have your comments to pass along to your coworkers as well as to the committee now studying this matter.*

### Evaluative Reports

Many extension workers become unhappy when reports are mentioned. The main reason is because they know that most reports do not measure results.

To make good result reports, we should conduct special studies of the major projects in our program. These of necessity would be sampling studies with well-thought-out criteria, data collection, and analysis. It would seem satisfactory if every county would select five projects and collect data on each every 5 years. This would mean one study a year.

These would be measures of efficiency of farmers in conducting various enterprises, measures of health, measures of social-civic accomplishments, and measures of recreational results. Comparisons of year-to-year results would give measures of progress.

When result measures are too difficult, we might step back and tabulate the activities undertaken by our clientele. Activity measures, however, are not as satisfactory as result measures because of the loss between what we do and the results obtained.

These would be sampling studies of the number of persons who said that they adopted certain recommended practices. Specialists could specify the practices, propose the questions, and analyze the data. As in the result studies, each county might select five areas and survey the practices in each area in a 5-year rotation. This would mean one approved practice study each year.

When we cannot easily tabulate activities, we might take another step back and measure knowledge and interests. These tests would show us how well we teach and what errors we need to correct. Tests could easily accompany subject-matter lessons, at both the beginning and end of each series. We might compare those who attended with a group who did not attend.

These three proposed types of studies are special surveys of our clientele. If properly executed, they might prove to be far superior to the "guess-timates" which make up such a large part of our annual reports.

D. M. HALL  
Extension Specialist, Illinois

### Course Scheduled for Extension Specialists

The Changing Role of the Specialist in Extension Education is the title of a course being tentatively offered in the 1958 session of the regional Extension Service Summer School at Cornell University. The school will be held July 7-25.

Many changes are taking place which influence the work of specialists. The course will deal with their functions as recognized leaders in light of these changes. It will be conducted as a conference or workshop, using consultants and discussion leaders.

Instructors will be Prof. Elton K. Hanks, Cornell, and Prof. Kenneth F. Warner, University of Maryland.

### Review Index Available

Copies of the 1956-57 index of the Extension Service Review are now available. Articles are indexed by subject, author, and state. Write to the Editor, Extension Service Review, FES, U. S. Dept. of Agriculture, Washington 25, D. C.

## Monthly Revisions in Publications Inventory

The following new titles should be added to the Annual Inventory List of USDA Popular Publications. Bulletins that have been replaced should be discarded. Bulk supplies of publications may be obtained under the procedure set up by your publications distribution officer.

- F 1068 Judging Beef Cattle
- L 423 Hauling Water to Sheep on Western Ranges

The following have been discontinued but county offices may use any copies they have on hand. The titles should be removed from the inventory list as USDA supplies are exhausted.

- F 684 Squab Raising
- F 767 Goose Raising
- F 952 Breeds of Light Horses
- F 1369 Bridge Grafting
- F 1372 Plum and Prune Growing in the Pacific States
- F 1723 Feeding, Care, and Management of Young Dairy Stock
- F 1910 Ladino White Clover for the Northeastern States

## BALANCED FARMING

(Continued from page 81)

We are sure that we do not have the final answer in carrying out this program. However, we can count some 30,000 formal Balanced Farming plans, plus thousands who have followed the lead of their neighbors on an informal basis.

Our present methods are effective but we are continually seeking better ways of getting the job done. We've tried a number of variations of the group system of teaching but we're still not ready to label any system as the final answer.

Most important is that Balanced Farming fully meets the needs of farm people. One concept has been held to throughout the 20 years Missouri has been working with Balanced Farming. That is, each farm family must set its own goals and plan how to attain them. This is the only way we can expect a family to carry out the plan. Changing economic conditions mean that the plans may have to be altered. If the family does not make the plan, they will not know how to change it when they should.



## SOMETHING NEW.. A School For Mr. And Mrs. To-Be



by JANICE C. BUGBEE, *Hampden  
County Associate Home Demon-  
stration Agent, Mass.*

food buying was held later at the request of the group.

A panel discussion by newlyweds dealt with problems of house hunting, division of household chores when the wife works outside the home, and other phases of learning to live together. The series of three meetings closed with a talk by the extension human relations specialist about some areas where adjustment is needed. Extension specialists discussed topics in their field and three bankers contributed to the sessions on insurance, home buying, and credit. A local department store loaned merchandise for display.

Publicity played an important role in the school's success. Announcement posters were sent with an explanatory letter to 133 industries, business firms, public utility companies, supermarkets, and colleges in the area. Members of the home department executive committee also distributed posters in their immediate area. Mimeographed announcements were sent to a large number of churches.

The posters would have been more effective if several had been sent to each concern. Some companies are so large that one poster is not effective. One company requested additional posters for its several departments.

Newspaper publicity proved to be the most effective way of announcing the school. The majority of those attending reported they had learned of the school through this medium.

More than half of the 43 people attending the school came with their future mates. The men were equally as interested in the topics as the women and all entered freely into discussion. Only two of those attending had previous contact with the Extension Service.

The meetings were held in the evening, with two sections each meeting. A coffee break between sections gave the couples an opportunity to question the instructors, sign for bulletins on display, and chat with others present. It also increased the friendly atmosphere which prevailed.

All who worked on the program felt it was the most satisfying teaching experience they had encountered. The prospective young marrieds were responsive to all the information offered and were thoroughly interested in each topic.

The School for Mr. and Mrs. To-Be reached a group that is often overlooked in extension programs, from the time they leave 4-H Clubs until they join adult extension groups. We are looking forward to seeing many of these people in adult groups in the future.

The school also made us more aware of consumers' great need for information on buying equipment, appliances, and furnishings. Related to this is the need for more information on use of credit. These topics will be discussed more frequently in future news articles by the home agents.

**P**ROSPECTIVE brides and grooms in Hampden County, Mass., are learning the answers to some of the problems they will encounter in establishing a home. Schools for "Mr. and Mrs. To-Be," held for the past 2 years, are expected to become an annual activity of the home department.

The idea for the school was conceived at a statewide program planning meeting in home furnishings. This committee felt that many couples are faced with questions regarding selection of furniture and appliances, use of credit, and many other phases of homemaking.

The program for the school was planned to include features on wise use of credit, life insurance, financing a home, selecting furniture and appliances from the standpoint of use and practicability, household linens and mattresses, and use of color in the home. An additional meeting on